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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,695	09/03/2008	Boris Zhevelev	28103-0006US1	9548

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EXAMINER	
BOOSALIS, FANI POLYZOS	
ART UNIT	PAPER NUMBER
2884	

NOTIFICATION DATE	DELIVERY MODE
08/15/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/596,695	ZHEVELEV ET AL.	
	Examiner	Art Unit	
	FAYE BOOSALIS	2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38 and 223-249* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38 and 223-249* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/06, 2/07, 1/08, 4/08, 6/08, 1/09, 3/09, 12/10,2/11*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Preliminary Amendment

1. The preliminary amendment filed on 21 June 2006 was accepted and entered. Claims 3-4, 6, 8-9, 12-17, 19, 21, 24-31, 34-38 were amended. Claims 39-222 were cancelled. New claims 223-249 were added. Thus, claims 1-38 and 223-249 are examined in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-9, 26-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barone et al (US 6,239,437 B1) in view of Grant et al (US 5,572,033 A) and Kotlicki et al (US 6,211,522 B1).

Regarding claims 1, 3-5, 8-9, 27-28, Barone discloses a passive infra-red detector comprising: at least three sub-detectors (18) (See Fig. 11) each of the at least thee sub-detectors being operative to receive infra-red radiation from a corresponding one of at least three sub fields-of-view, each of the at least three sub fields-of-view being exclusively defined by an optical element which does not define any other of the at least three sub fields of view, the at least three sub fields-of-view being angled with respect to each other (See Fig. 11, Abstract and col. 6, lines 55-65). Barone et al is silent with regards to a 30 degree gap between at least one of the three sub fields-of-

view, multiple azimuthally distributed detection zones and the signal processing circuitry to provide motion detection output. Grant discloses a passive infra-re detector comprising: wherein at least three sub fields-of-view are separated by a gap of less than 30 degrees (See Abstract); a signal processing circuitry, operative to receive output signals from the at least three sub detectors (16A, 16B, 16C) and to provide a motion detection output (col. 7, lines 58-67 and col. 8, line 12); and optical elements of each sub-detector (16A, 16B, 16C) being different and non focusing (col. 2, lines 42-50). Kotlicki discloses a passive infra-red intrusion sensor comprising field-of-view comprising a multiple azimuthally distributed detection zones (col. 7, lines 66-67 and col. 8, lines 1-5). Kotlicki teaches cylindrical lenses, if purely cylindrical, have focusing properties only in the azimuthal plane perpendicular to their axis, the result is that each lens focuses a vertical curtain of the protected area onto the infra-red detector. Such cylindrical lenses provide good detection for distance of from about 1 meter out to over 6 meters (col. 14, lines 11-20). Thus, it would have been obvious to modify Barone et al to arrange the sub fields-of-view with a gap and signal processor, as taught supra by Grant et al, to enable a wider viewing angle and to reduce false alarm movement, and multiple azimuthally distributed detection zones, as taught supra by Kotlicki et al, so as to provide a span of azimuthal coverage of the middle and near field detection.

Regarding claim 2, Barone discloses a passive infra-red detector wherein the at least three sub fields-of-view are substantially non-overlapping (See Fig. 11).

Regarding claims 6-7, Grant discloses wherein the focusing element comprises at least one of a reflective element (col. 2, lines 42-50).

Regarding claim 26, Grant discloses wherein the passive infra-red detector is operative to receive radiation form a field-of-view having a field-of-view divergence angle of at least 45 degrees (col. 7, lines 5-10).

Regarding claims 29-30, Grant discloses wherein at least one of the three sub fields-of-view comprises a single vertical distributed detection zone (col. 3, lines 10-14).

Regarding claim 31, Grant discloses a passive infra-red detector comprising a housing (10) (See Abstract) formed with an aperture (lenses) adapted for passage there through of infra-red radiation, wherein the at least three sub fields-of-view intersect generally at an intersection region located at the aperture is generally equal in size of the intersection region (See Fig. 1 and col. 3, lines 56-61 and col. 5, lines 47-61).

Regarding claims 32-33 and 35, Grant discloses wherein a window (12) transparent to infra-red radiation is located adjacent to the aperture (See Fig. 1, and col. 5, lines 47-52).

Regarding claim 34, although Barone and Grant do not disclose a circular cross section design of the window, it would have been obvious to a person having ordinary skill in the art as a matter of routine design choice, to modify Barone and Grant to use a circular cross section window arrangement to provide for an alternative means of infra-red detection.

Regarding claim 36, Grant discloses wherein the window (12) is formed of Germanium or Silicon (See Fig. 1 and col. 10, lines 22-26).

Regarding claims 37-38, although Barone and Grant disclose a guard element surrounding a window, it would have been obvious to a person having ordinary skill in

the art to modify Barone and Grant to use a guard element surrounding the window to provide a form of protection to prevent for example dust or wind current, etc. from causing false alarms.

4. Claims 10-25, 223-234, 237-249 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barone et al (US 6,239,437 B1) in view of Grant et al (US 5,572,033 A).

Regarding claims 10-13, 14, 17-19, 225, 247-249, Barone discloses a passive infra-red detector comprising: at least three sub-detectors (18) (See Fig. 11), each operative to receive infra-red radiation from a corresponding one of at least three sub fields-of-view (See Abstract, Fig. 11 and col. 6, lines 55-65); and a signal processing circuit wherein in the resulting detector output signal is processed electronically to activate an alarm, switch or other control system; and wherein the at least three sub fields-of-view are substantially non-overlapping (See Fig. 11). Barone et al is silent with regards to the processing circuitry is operative to process the output signals in time periods. Grant discloses signal processing circuitry, receiving output signals from at least two of the at least three sub-detectors (16A, 16B, 16C) and providing a motion detection output in response to receipt of the output signals; noting, within a predetermined first time period (time interval), multiple detections by one of the at least two sub-detectors and the absence of detection by another of said at least two sub-detectors and being operative to ignore future detections by the one of the at least two sub-detectors for at least a predetermined second time period (col. 7, lines 58 to col. 8, line 12). Grant teaches, nine main fields of view are arranged as three groups of three

to provide separate signal sources of electronic processing by three separate processors. Signals meeting specific requirements (i.e. amplitude, frequency, duration) may be stored in electronic memory for a preset time but not used to signal an alarm. The processing circuit monitors the content of the three stores and only signal an alarm condition if any two of the three stores contain an intrusion signal. The number of channels used, the logic conditions and time periods may be varied to suit individual site and security requirements (col. 7, lines 58 to col. 8, line 12). Thus, it would have been obvious to modify Barone et al to use processing circuitry, as taught supra by Grant et al, so as to minimize false alarm security detection by the passive infra-red detector.

Regarding claims 15-16, Grant discloses wherein the signal processing circuitry is operative to note a sequence of receipt of the output signals by the at least three sub-detectors and to provide motion direction and path output based on the sequence (col. 7, lines 41-47 and col. 8, lines 35-45).

Regarding claim 20, Grant discloses wherein the ratio is in the range of 3 to 30 seconds (col. 2, lines 51-67).

Regarding claims 21-23, Grant discloses wherein the signal processing circuitry is operative to process the output signals according to that at least one predefined criterion (i.e. amplitude, frequency, duration) by noting a time difference between receipt of the output signals and time durations of the output signals and to provide the motion detection output in response to receipt of the output signals from at least two adjacent ones of the at least three sub-detectors (16A, 16B, 16C) having respective time durations and a time difference there between, the time durations and time difference

there between having a time relationship which meets at least one predetermined criterion (col. 2, lines 36-67); and wherein a ratio (3 to 30 seconds) between time difference of time duration lies within a predetermined range of values (col. 2, lines 51-67).

Regarding claims 24-25, Grant discloses wherein the predetermined range of values is based at least in part on divergence angles of at least two zones of two different ones of the at least three sub fields-of-view corresponding to at least two adjacent one so the at least three sub-detectors (col. 2, lines 36-41).

Regarding claims 223-224, Grant discloses the signal processing circuitry operative to note a sequence of receipt of the output signal by at least three sub-detectors (16A-16C) and provide motion direction control based on the sequence (See Fig. 7 and col. 7, lines 41-47).

Regarding claims 226-231, Grant discloses wherein the signal processing circuitry is operative to process the output signals according to that at least one predefined criterion (i.e. amplitude, frequency, duration) by noting a time difference between receipt of the output signals and time durations of the output signals and to provide the motion detection output in response to receipt of the output signals from at least two adjacent ones of the at least three sub-detectors (16A, 16B, 16C) having respective time durations and a time difference there between, the time durations and time difference there between having a time relationship which meets at least one predetermined criterion (col. 2, lines 36-67); and wherein a ratio (3 to 30 seconds)

between time difference of time duration lies within a predetermined range of values (col. 2, lines 51-67).

Regarding claims 232-233, Grant discloses wherein the predetermined range of values is based at least in part on divergence angles of at least two zones of two different ones of the at least three sub fields-of-view corresponding to at least two adjacent one so the at least three sub-detectors (col. 2, lines 36-41).

Regarding claim 234, Grant discloses wherein the passive infra-red detector is operative to receive radiation form a field-of-view having a field-of-view divergence angle of at least 45 degrees (col. 7, lines 5-10).

Regarding claims 237-238, Grant discloses wherein at least one of the three sub fields-of-view comprises a single vertical distributed detection zone (col. 3, lines 10-14).

Regarding claim 239, Grant discloses a passive infra-red detector comprising a housing (10) (See Abstract) formed with an aperture (lenses) adapted for passage there through of infra-red radiation, wherein the at least three sub fields-of-view intersect generally at an intersection region located at the aperture is generally equal in size of the intersection region (See Fig. 1 and col. 3, lines 56-61 and col. 5, lines 47-61).

Regarding claims 240-241, Grant discloses wherein a window (12) transparent to infra-red radiation is located adjacent to the aperture (See Fig. 1, and col. 5, lines 47-52).

Regarding claim 242, although Barone and Grant do not disclose a circular cross section design of the window, it would have been obvious to a person having ordinary skill in the art as a matter of routine design choice, to modify Barone and Grant to use a

circular cross section window arrangement to provide for an alternative means of infra-red detection.

Regarding claims 243, Grant discloses wherein a window (12) transparent to infra-red radiation is located adjacent to the aperture (See Fig. 1, and col. 5, lines 47-52).

Regarding claim 244, Grant discloses wherein the window (12) is formed of Germanium or Silicon (See Fig. 1 and col. 10, lines 22-26).

Regarding claims 245-246, although Barone and Grant disclose a guard element surrounding a window, it would have been obvious to a person having ordinary skill in the art to modify Barone and Grant to use a guard element surrounding the window to provide a form of protection to prevent for example dust or wind current, etc. from causing false alarms.

5. Claims 235-236 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barone et al (US 6,239,437 B1) in view of Grant et al (US 5,572,033 A), as applied to claim 10 above, and further in view of Kotlicki et al (US 6,211,522 B1).

Regarding claims 235-236, Barone et al and Grant et al disclose all of the limitations of parent claim 10, as described above. However, Barone et al and Grant et al are silent with regards to multiple azimuthally distributed detection zones. Kotlicki discloses a passive infra-red intrusion sensor comprising field-of-view comprising a multiple azimuthally distributed detection zones (col. 7, lines 66-67 and col. 8, lines 1-5). Kotlicki teaches cylindrical lenses, if purely cylindrical, have focusing properties only in the azimuthal plane perpendicular to their axis, the result is that each lens focuses a

vertical curtain of the protected area onto the infra-red detector. Such cylindrical lenses provide good detection for distance of from about 1 meter out to over 6 meters (col. 14, lines 11-20). Thus, it would have been obvious to modify Barone et al and Grant et al provide multiple azimuthally distributed detection zones, as taught supra by Kotlicki et al, so as to provide a span of azimuthal coverage of the middle and near field detection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FAYE BOOSALIS whose telephone number is (571)272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Porta/
Supervisory Patent Examiner, Art Unit 2884

/FB/